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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,750	01/15/2004	Shyam S. Bayya	N.C. 84,936	6396
26384 7590 03/15/2007 NAVAL RESEARCH LABORATORY ASSOCIATE COUNSEL (PATENTS) CODE 1008.2 4555 OVERLOOK AVENUE, S.W. WASHINGTON, DC 20375-5320			EXAMINER SAMPLE, DAVID R	
			ART UNIT 1755	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/15/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/758,750

Applicant(s)

BAYYA ET AL.

Examiner

David Sample

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

Any rejections and/or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 102***

Claims 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Dejneka et al. (US 6,589,895).

Dejneka et al. discloses glass compositions that anticipate the glass recited in on one or more of claims 18-21. The following compositions anticipate one or more of claims 18-21:

- Samples CA, CB, CC and CD, Table II, col. 7;
- Samples DS, DT and DU, Table VI, col. 8;
- Samples ID, IF-IM, Table VI, col. 9;
- Samples KX-LF, i.e., all of the compositions of Table VII, col. 10
- Samples HW-JM, i.e., all of the compositions of Table VIII, col's 9-10; and
- Samples OR, OS, and OT, Table IX, col. 11.

The reference fails to disclose that any hydroxyl groups are present in the glass compositions. Moreover, the reference discloses that the halogen compounds strip out the OH groups during melting. For these reasons, the claim 18 recitation regarding hydroxyl group concentration is assumed to be inherent to the reference. See MPEP 2112.

***Claim Rejections - 35 USC § 103***

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dejneka et al. (US 6,589,895) in view of Jewel et al. (US 5,486,495).

As noted above, Dejneka et al. discloses glass compositions that anticipate the glass recited in claims 18-21. These glasses also anticipate the compositional recitations of instant claims 3, 7, 9-12. Dejneka et al. provides little guidance on the method of making the glass.

However, as is well known in the art, glasses are formed by melting, quenching, annealing and cooling. For example, Jewell et al. discloses a method of making a BGG glass ceramic in which raw materials containing sources Ba, Ga and Ge are melted, quenched, annealed at a temperature above the glass transition temperature and cooled. See col. 4, lines 4-28.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass of Dejneka et al. in the manner taught by Jewel et al. because it is well known that glasses are formed in a manner akin to Jewel et al.

Claims 2-17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dejneka et al. (US 6,589,895) in view of Jewel et al. (US 5,486,495) as applied to claim 1 above, and further in view of Higby et al. (5,305,414).

The combination of Dejneka et al. and Jewell et al. is silent on fining. Higby et al. discloses that a vacuum may be applied to BGG glass at its melting temperature to remove dissolved gasses. See the paragraph bridging col's 4 and 5 of Higby et al. This process is also called "fining."

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a vacuum to the glass of Dejneka et al. during melting according to the process of Jewel et al. as suggested by Higby et al. because the resultant glass would have dissolved gasses removed.

The recitations of claims 3, 7, 9-12 can be found in Dejneka et al. in the anticipatory examples referred to above.

The recitations of instant claim 4 are glass properties and are presumed to be inherent to the glass of Dejneka et al. because the composition Dejneka et al. is identical to the presently claimed composition.

The cooling rate and annealing recitations of claims 5 and 6 can be found in Higby et al. at col. 5, lines 5-24.

The recitations of claims 13-17 regarding forming a glass ceramic can be found in Jewel et al. at col. 4, line 29 to col. 5, line 25.

### ***Response to Arguments***

Applicant's arguments filed June 19, 2006 have been fully considered but they are not persuasive.

#### **§ 102 Rejection over Dejneka et al. (US 6,589,895)**

Applicants argue that the present claims are not anticipated by Dejneka et al. because they include  $\text{Tm}_2\text{O}_3$ . This argument is not deemed persuasive. Applicants do not employ a traditional transitional phrase such as "consisting of" which would close the claim to unrecited ingredients. Rather, applicants recite that the glass is "made from" the recited ingredients. Such

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non-traditional transitional phrases must be interpreted in light of the specification to determine if the claims are meant to be open or closed to other ingredients. See MPEP 2111.03. In the instant case, the specification does not state whether the claims are intended to be open or closed. However, the specification does contemplate the inclusion of unrecited components on page 16, lines 5-10. For this reason, the claims are assumed to be open to the inclusion of other ingredients, such as  $\text{Tm}_2\text{O}_3$ , even in major amounts.

Applicants argue that the inclusion of  $\text{Tm}_2\text{O}_3$  makes the glass unsuitable for the uses contemplated for the present glass. This argument is not persuasive because it does not relate to a claim limitation, but rather is directed to unclaimed intended uses.

Applicants further argue that the glasses of Dejneka et al. include  $\text{K}_2\text{O}$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{CaO}$  and  $\text{CeO}_2$ . Again, the instant claims are presumed to be open to other ingredients.

Applicants argue that the claimed OH concentration is not inherent to the reference. This argument is noted but not deemed persuasive. The examiner maintains that the OH concentration is inherent for the reasons stated above. In particular, the reference takes steps to eliminate OH.

Applicants argue that Dejneka et al. implies that some OH remains. The examiner agrees, however, the present claims do not require that all of the OH be removed and allow for less than 1 ppm OH.

Applicants cite the included Declaration as evidence that the glass of Dejneka et al. does not inherently possess less than 1 ppm OH. The examiner has reviewed the Declaration but it is not persuasive. The declaration discusses Dejneka et al. but it does not definitively state that the

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glasses of Dejneka et al. contain greater than 1 ppm OH. The data shows that some OH may be present but does not identify the amount.

### § 103 Rejections

Applicants argue that the combination of reference fail to disclose the composition of claims 18-20, and therefore do not render obvious claim 1. This argument is not deemed persuasive for the reasons noted above that Dejneka et al. anticipates the glass of claims 18-20. It should be noted that claim 1 does not recite all of the recitations of the composition claim 18.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

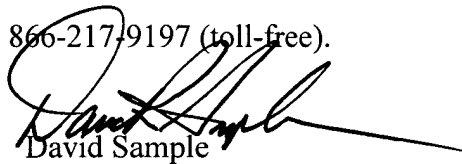
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Sample  
Primary Examiner  
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